Accommodations Toolkit

Highlighting: Research

This fact sheet on **highlighting** is part of the *Accommodations Toolkit* published by the National Center on Educational Outcomes (NCEO). It summarizes information and research findings on highlighting as an accommodation[1]. The toolkit also contains summary of states' accessibility policies for highlighting (/nceo/accommodations-toolkit/highlighting-policies).

What is highlighting? Highlighting is an accessibility feature where students use a highlighter, either a physical marker or an electronic tool embedded in testing software, to mark text or other information that they deem important or may want to revisit.

What are the research findings on who should use this accommodation? Middle school students who previously used this accommodation during instruction may find it more useful than younger students (Goodwin, 2020; Higgins, 2005).

What are the research findings on implementation of highlighting? Three studies were located that addressed issues related to the implementation of highlighting as a testing accommodation.

- Some students may benefit from using a highlighting tool during testing. Students who participated in appropriate practice and regular use of highlighting prior to the assessment were likely to use an electronic highlighting tool more often during the assessment (Higgins et al., 2005).
- Goodwin et al. (2020) found that highlighting was generally helpful for middle school students, while Higgins et al. (2005), in a study of elementary students, found "that a small proportion of students may benefit from having access to these test taking tools in the computer-based environment" (p. 32).
- Digital highlighting was found to be more beneficial than physically highlighting text on paper (Higgins et al., 2005; Goodwin et al., 2020).
- Students highlighted more frequently when using a physical highlighter than when using a digital tool. Goodwin et al. (2020) found that middle school students highlighted almost 2.5 times more frequently on paper than digitally.
- When available, older students used highlighting more than younger students. Goodwin et al. (2020), in a study of fifth, sixth, and seventh grade students, found that highlighting use increased as the grade increased. Higgins et al. (2005), in a survey of fourth grade students, found that less than 20% indicated that they used electronic features like highlighting; however, when they did use the tool, the students used it consistently and as intended. When highlighting was provided digitally as a universal feature to all students on a large statewide assessment, Lee et al. (2021) found that 34% of sixth students used it on the English language arts test and 12% used it on grade the mathematics test.

What perceptions do students and teachers have about highlighting? One of the research studies examined student perceptions about the use of highlighting. Higgins et al. (2005) found that students who did not use the highlighting feature most commonly reported that they did not use it because they felt that they did not need to, not because of a lack of ability to use the highlighting tool, either on paper or digitally.

What have we learned overall? Some students may benefit from the use of highlighting. The limited research suggests that digital highlighting may be more useful than the use of a physical marker to highlight text. Many students who have access to highlighting tools on an assessment choose not to use them, though students were more likely to use them on assessments if they have prior experience using during instruction. Middle school students may find highlighting more helpful than younger students. No research was identified that addressed high school students. Students should be provided with the opportunity to practice using highlighting prior to receiving it on an assessment. Since only three research studies were identified on highlighting, there is a need for additional research on this accessibility feature.

Footnotes

[1]

Research on highlighting summarized here is also available in NCEO's searchable *Accommodations for Students with Disabilities Bibliography* (https://nceo.info/Resources/bibliographies):://nceo.info/Resources/bibliographies (https://nceo.info/Resources/bibliographies)) and in NCEO syntheses of research from 1999 through 2021 (see summaries for: 1999-2001 (https://nceo.umn.edu/docs/OnlinePubs/TechReport34.pdf), 2002-2004 (https://nceo.umn.edu/docs/OnlinePubs/Tech45/Technical45.pdf), 2005-2006 (https://nceo.umn.edu/docs/OnlinePubs/Tech47/TechReport47.pdf), 2007-2008 (https://nceo.umn.edu/docs/OnlinePubs/Tech56/TechnicalReport56.pdf), 2009-2010 (https://nceo.umn.edu/docs/OnlinePubs/Tech65/TechnicalReport65.pdf), 2011-2012 (https://nceo.umn.edu/docs/OnlinePubs/Synthesis94/Synthesis94.pdf), 2013-2014 (https://nceo.umn.edu/docs/OnlinePubs/Report402/NCEOReport402.pdf), 2015-2016 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport412.pdf), 2017 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport418.pdf), 2018 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport423.pdf), 2019 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport433.pdf), 2020 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport436.pdf), 2021 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport438.pdf). See the reports and online bibliography for additional information about the criteria used to identify studies included in this fact sheet.

References

Goodwin, A. P., Cho, S. J., Reynolds, D., Brady, K., & Salas, J. (2020). Digital versus paper reading processes and links to comprehension for middle school students. *American Educational Research Journal*, *57*(4), 1837–1867. https://doi.org/10.3102/0002831219890300 (https://doi.org/10.3102/0002831219890300)

Higgins, J., Russell, M., & Hoffmann, T. (2005). Examining the effect of computer-based passage presentation on reading test performance. *The Journal of Technology, Learning, and Assessment*, *3*(4). https://ejournals.bc.edu/ojs/index.php/jtla/issue/archive (https://ejournals.bc.edu/ojs/index.php/jtla/issue/archive)

Lee, D., Buzick, H., Sireci, S. G., Lee, M., & Laitusis, C. (2021). Embedded accommodation and accessibility support usage on a computer-based statewide achievement test. *Practical Assessment, Research, and Evaluation*, *26*(25). https://doi.org/https://doi.org/10.7275/21926674 (https://doi.org/https://doi.org/10.7275/21926674)

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Ressa, V. A., Lazarus, S. S., Rogers, C. M., Hinkle, A. R., & Fleming, K. (2024). *Highlighting: Research (NCEO Accommodations Toolkit #19a.1)*. National Center on Educational Outcomes.

The Center is supported through a Cooperative Agreement (#H326G210002) with the Research to Practice Division, Office of Special Education Programs, U.S. Department of Education. The Center is affiliated with the Institute on Community Integration at the College of Education and Human Development, University of Minnesota. Consistent with EDGAR §75.62, the contents of this report were developed under the Cooperative Agreement from the U.S. Department of Education, but do not necessarily represent the policy or opinions of the U.S. Department of Education or Offices within it. Readers should not assume endorsement by the federal government.